

ABSTRACT

A power unit for a vehicle, such as an automobile, includes an internal combustion engine 1 as a prime mover for the vehicle, a generator 3, and a Stirling engine 4 for driving the generator 3. The Stirling engine 4 uses the exhaust gas discharged by the internal combustion engine 1 as a high-temperature heat source. Power generated by the generator 3 is supplied to an electric motor 2 for driving auxiliary machines 7, 8 and 9, and to a battery 5 for supplying power to the electric motor 2. The engine speed of the Stirling engine 4 is controlled through the control of the load on the generator 3 by a field regulator 15. An optimum engine speed of the Stirling engine 4 is determined such that the brake horsepower of the Stirling engine 4 increases to a maximum or substantially maximum brake horsepower. The fuel consumption of the internal combustion engine 1 as the prime mover that produces waste heat as a high-temperature heat source for the Stirling engine 4 is reduced, and the auxiliary machines are driven so as to fully exercise their functions even in a state where the brake horsepower of the Stirling engine 4 is low.